CONTENTS OF VOLUMES 39–43

VOLUME 39

Percolation model of galactic structure
By P. E. Seiden and L. S. Schulman 1

The spin-polaron theory of high-T_c superconductivity
By N. F. Mott 55

Symmetry of the order parameter for high-temperature superconductivity
By J. F. Annett 83

A review of theoretical and experimental work on the structure of Ge_xSi_{1-x} strained layers and superlattices, with extensive bibliography
By S. C. Jain, J. R. Willis and R. Bullough 127

The AC electrical conductivity of binary disordered systems, percolation clusters, fractals and related models
By J. P. Clerc, G. Giraud, J. M. Laugier and J. M. Luck 191

Magnetic properties of (rare earth)Al_2 intermetallic compounds
By H.-G. Purwins and A. Leson 309

Orientational glasses
By U. T. Höchli, K. Knorr and A. Loidl 405

Geometry and topology of chiral anomalies in gauge theories
By R. Rennie 617

VOLUME 40

Dynamics of one-dimensional interfaces: an experimentalist's view
By J.-M. Flessells, A. J. Simon and A. J. Libchaber 1

Pattern selection in two-dimensional dendrite growth
By E. A. Brener and V. I. Mel'nikov 53

Magnetic rare earth superlattices
By C. F. Majkrzak, J. Kwo, H. Hong, Y. Yafet, D. Gibbs, C. L. Chen and J. Bohr 99

Solitary excitations in one-dimensional magnets
By H.-J. Mikeska and M. Steiner 191

Epitaxial film crystallography by high-energy Auger and X-ray photoelectron diffraction
By S. A. Chambers 357

Anomalous properties of Ce–Cu- and Yb–Cu-based compounds
By E. Bauer 417

Frequency and density dependent radiative recombination processes in III–V semiconductor quantum wells and superlattices
By R. Cingolani and K. Ploog 535

Photodoping of amorphous chalcogenides by metals
By A. V. Kolobov and S. R. Elliott 625

Electrostatic energy of a complex and infinitely extended electronic system
By P. Bagno, L. F. Dona dalle Rose and F. Toigo 685

Intrinsic dielectric loss in crystals
By V. L. Gurevich and A. K. Tagantsev 719

VOLUME 41

Ferroelectric polymers
By R. G. Kepler and R. A. Anderson 1

Electron-holographic interference microscopy
By A. Tonomura 59

Microscopic theory of the fractional quantum Hall effect
By J. K. Jain 105

Sound propagation in superfluid ^{3}He *B*
By Z. Zhao, S. Adenwalla, B. K. Sarma and J. B. Ketterson 147

Quasi-particles in heavy fermion systems
By Gertrud Zwicknagl 203

Electronic properties of quasicrystals. An experimental review
By S. J. Poon 303

Transverse electron focusing as a way of studying surface crystallography
By V. S. Tsoi, J. Bass and P. Wyder 365

Muon catalysed fusion. Chemical confinement of nuclei within the muonic molecule dtμ
By P. Froelich 405

Recent advances in highly conductive polyacetylene
By J. Tsukamoto 509

Theory of orientational glasses. Models, concepts, simulations
By K. Binder and J. D. Reger 547

VOLUME 42

Application of experimental and numerical models to the physics of multi-particle systems
By P. Meakin and A. T. Skjeltorp 1

Scanning tunnelling microscopy of the interaction of hydrogen with silicon surfaces
By J. J. Boland 129

Low-dimensional systems: quantum size effects and electronic properties of semiconductor microcrystallites (zero-dimensional systems) and some quasi-two-dimensional systems
By A. D. Yoffe 173

The superconducting mixed state of artificial microstructures
By A. N. Lykov 263

Thermal properties of 'stacked hexatic phases' in liquid crystals
By C. C. Huang and T. Stoebe 343

Electron–phonon, electron–electron and electron–surface scattering in metals from ballistic effects
By V. A. Gasparov and R. Huguenin 393

Ultrathin metallic magnetic films: magnetic anisotropies and exchange interactions
By B. Heinrich and J. F. Cochran 523

Multichannel Kondo problem and some applications
By P. Schlottmann and P. D. Sacramento 641

Inhomogeneous systems with unusual critical behaviour
By F. Iglói, I. Peschel and L. Turban 683

VOLUME 43

The solid-state properties of uranium. A historical perspective and review
By G. H. Lander, E. S. Fisher and S. D. Bader 1

The order parameter for the superconducting phases of UPt_3
By J. A. Sauls 113

Universality and scaling in fully developed turbulence
By M. Nelkin 143

Electronic structure of NiO and related 3d-transition-metal compounds
By S. Hüfner 183

Theory of phase-ordering kinetics
By A. J. Bray 357

Symmetry and transport of waves in one-dimensional disordered systems
By J. B. Pendry 461

Renormalization group and Fermi liquid theory
By A. C. Hewson 543

Critical dynamics of magnets
By E. Frey and F. Schwabl 577

Stress and strain in liquid and solid foams
By D. Weaire and M. A. Fortes 685

Two-dimensional normal grain growth: topological aspects
By V. E. Fradkov and D. Udler 739